Last Revised 1/23/2003 **DRAFT**

Resource Action Identification Form

It is anticipated that potential Resource Actions may be very preliminary at this stage. Please fill out as many sections as possible (understanding that you may not have this information or it may not be available) but, at a minimum, sections 1, 2, and 3. Resource Actions may be refined, reviewed and parked over time through Work Group, Plenary and Settlement discussions.

1. **Name of Proposed Resource Action:**
   a. Name of proposed Resource Action: Large Woody Debris Management for the Lower Feather River

2. **Proposed Resource Action – Please describe and include the following:**
   a. Describe the proposed Resource Action in as much detail as practical: Currently, large woody debris (LWD) is trapped by the Oroville Reservoir and in flood control bypasses, which is collected and disposed of by the Department of Water Resources. Geomorphic changes dowstream of the dam caused by the project and its operations may have altered and/or reduced input of LWD, either through changes in riparian recruitment or alterations in bank stability. This proposal would use a portion of the collected material to restore a natural amount of LWD in the lower river. LWD would be trucked to the lower river and placed (e.g. anchored) in a manner which would provide maximum benefit to anadromous fish rearing, geomorphic process and/or bank stabilization. The amount and placement of LWD would be determined through a study designed to investigate these questions, presented in April 2004, or earlier if possible. A proposal to restore the ecological function of LWD should be proposed in draft for review before December 2003.

   b. Any physical or operational changes:
   ☒ Yes ☐ No ☐ Don't know
   If Yes, Please explain: Current debris collection operations would require coordination with biologists responsible for LWD placement. Trucks and cranes would be required to transport material.

   c. Proposed start date and duration
   Start (month/yr): ASAP Duration (month(s)/yr(s)): Ongoing

d. Location (within FERC boundary/outside FERC boundary)
☒ Inside ☒ Outside ☐ Don't know
Please specify possible location(s) referring to the linked map (http://orovillerelicensing.water.ca.gov/maps.html), or providing a map as appropriate: Collection and some placements would be made within the FERC boundary.

e. Please provide alternative potential Resource Actions for addressing the same resource goal and/or Project 2100 effects referring to the linked map, or providing a map as appropriate: LWD could be cut from sources closer to the lower river, however this may result in unintended consequences, e.g. the conifers which are more prevalent in the upper basin may provide some unknown benefit as they decompose in the lower river. Although this alternative may be less expensive, the public may consider this to be a waste of natural resources.

☐ Unknown

f. Describe the methods for measuring the goals and performance of the Resource Action or methods for evaluating success against the known resource goal(s): Photographs would be taken and geo-referenced before and during placement of LWD. Notations would describe the specific goals and benefits for each placement, position on a map, the specific types of any anchoring devices used, the anticipated goal for stability of the placement, and the time at which an inspection will be required. If evaluation is considered to be necessary, a snorkeling survey of the proposed site could be conducted during the time of maximum possible utilization, which could be compared to a survey years after the placement has been made.

☐ Unknown

g. Describe the feasibility of the Resource Action: There are no feasibility problems anticipated.

☐ Unknown

h. Please mark the applicable Working Groups that would be involved in the implementation of this Resource Action:
   - ☒ Land Use and Management
   - ☒ Recreation & Socioeconomics
   - ☐ Cultural Resources
   - ☒ Engineering and Operations
   - ☒ Environmental

3. **Contact Information for Submitter(s) & Alternate Contact:**
   a. Organization name: National Marine Fisheries Service

   b. Preparer's name, phone number and e-mail address: Eric Theiss, 916-930-3613, eric.theiss@noaa.gov

   c. Secondary contact person, phone number and e-mail address: Richard DeHaven, 916-414-6738, Richard_deHaven@FWS.GOV

   d. Date prepared: 1/9/02

   e. Organization(s) represented by submitter: National Marine Fisheries Service

- - - - Please fill out the following questions to the best of your ability, understanding that you may not have this information or it may not be available - - - -

4. **Resource Goals:**
   a. Identify and describe the resource goal the Resource Action is related to, providing reference to the resource goal number(s) described, as appropriate: Resource Goal F3.1 Minimize or mitigate adverse project related effects on the habitat of resident fish, Resource Goal F3.3 Enhance habitat for resident aquatic species, Resource Goal F6.1 Minimize and mitigate project impacts that harm aquatic habitats by altering geomorphic processes or degrading water quality, Resource Goal F6.2 Enhance aquatic habitats through alteration of geomorphic processes, Resource Goal F9.3 Continued mitigation for loss of anadromous fish spawning habitat in the Feather River, Resource Goal F10.1 Minimize and mitigate adverse project impacts on habitat, genetic integrity and population size of anadromous fishes, Resource Goal F10.2 Increase natural production of steelhead, spring-run and fall-run chinook salmon and other anadromous fish, Resource Goal F11.1 Minimize and mitigate adverse project impacts on habitat, Resource Goal F13.1 Minimize and mitigate adverse project impacts on habitat, genetic

integrity and population size of listed species, Resource Goal F13.2 Increase natural production of steelhead and spring-run chinook, Resource Goal F13.3 Restore populations of listed fish species, Resource Goal F14.1 Minimize and mitigate adverse project impacts on habitat, genetic integrity and population size of anadromous fishes, Resource Goal F15.1 Minimize and mitigate adverse project-related effects on anadromous fish passage and ecological functions, Resource Goal F17.1 and mitigate adverse project related effects on fish and aquatic resources, Resource Goal T5.1 Minimize and mitigate adverse project-related effects on riparian and wetland ecosystems along the Feather River, Resource Goal T5.2 Enhance riparian and wetland habitats including floodplain and upland wetlands, vernal pools, and brood ponds within the project boundary.

☐ I don't know

b. Explanation of how the Resource Action furthers that goal: In recent years, aquatic research has highlighted the importance of LWD in providing habitat structure and positive ecosystem function benefits to riverine ecosystems. These functions include: 1) predator protection for juvenile fish, 2) creation of low velocity habitat near the thalweg for juvenile fish, 3) creation of additional "ecotones" and habitat complexity for use by aquatic vertebrates and invertebrates, 4) creation of streambed alterations which exposes additional types of habitat, 5) creation of opportunities for riparian vegetation recruitment, and 6) sediment and organic matter storage

☐ I don't know

5. Identify the Resource Issue/Relationship to Project and Relicensing

a. Describe the issue the Resource Action is intended to address, referring as appropriate to Issue Statement(s) number(s): Restoration of aquatic habitat (Issue Statements: F3, F6, F9, F10, F11, F13, F14, F15, F17, T5, T5); and Increase natural production and survival of fish (Issue Statements: F10, F13, F13)

☐ Unknown

b. Describe the relationship between the Resource Action and the project, including any project impacts the Resource Action is intended to address:

The Project currently impacts the health of the lower river by starving it of LWD. Replacing LWD would help to restore natural functions to the river.

☐ Unknown

c. Identify any comprehensive plans that this Resource Action is related to:

_____

☐ Unknown